ViewSonic®

A90f+

Color Monitor

ViewSonic®

ViewSonic®

With Plug & Play

✓
19" (18.0" Viewable Diagonal)

User Guide
Guide de l'utilisateur
Guía del usuario
Guia do usuário

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Product Registration

To meet your future needs, and to receive any additional product information as it becomes available, please register your product on the Internet at: **www.viewsonic.com**. The ViewSonic Wizard CD-ROM also provides an opportunity for you to print the registration form, which you may mail or fax to ViewSonic.

Product disposal at end of product life

ViewSonic is concerned about the preservation of our environment. Please dispose of this product properly at the end of its useful life. Your local waste disposal company may provide information about proper disposal.

ViewSonic A90f+

Getting Started

Congratulations on your purchase of a ViewSonic® color monitor. *Important!* Save the original box and all packing material for future shipping needs.

NOTE: The word "Windows" in this user guide refers to the following Microsoft operating systems: Windows 95, Windows 98, Windows 2000, Windows Me (Millennium Edition), Windows NT, and Windows XP.

Package Contents

Your package includes:

- · Color monitor
- DB-15 video cable
- · Power cord
- ViewSonic Wizard CD-ROM

NOTE: The CD jacket contains the Quick Start Guide, and the CD includes User Guide PDF files and INF/ICM display optimization files. The INF file ensures compatibility with Windows operating systems, and the ICM file (Image Color Matching) ensures accurate on-screen colors. ViewSonic recommends that you install both files.

Precautions

- For best viewing conditions sit at least 18" from the monitor.
- AVOID TOUCHING THE SCREEN WITH YOUR FINGERS. Oils from the skin are difficult to remove.
- NEVER REMOVE THE REAR COVER. The monitor contains high voltage parts. You may suffer serious injury if you touch these parts.
- Avoid exposing the monitor to direct sunlight or another heat source, including an open flame. The monitor should be facing away from direct sunlight to reduce glare.
- Always handle your monitor with care when moving it.

- Place your monitor in a well ventilated area. Do not place anything on the monitor that prevents adequate dissipation of heat.
- Ensure the area around the monitor is clean and free of moisture.
- Keep the monitor away from magnets, motors, transformers, speakers, and televisions.
- Do not place heavy objects on the monitor, video cable, or power cord.
- If smoke, abnormal noise, or strange odor is present, immediately switch the monitor off and call your dealer or ViewSonic. It is dangerous to continue using the monitor.

Quick Installation

1 Connect power cord

Connect the power cord to a properly grounded AC outlet.

2 Connect video cable

Make sure both the monitor and computer are turned OFF.

Connect the video cable to the computer.

Macintosh® users: Models older than G3 require a Macintosh adapter. Attach the adapter to the computer and plug the video cable into the adapter.

To order a ViewSonic[®] Macintosh adapter, contact ViewSonic. See "Customer Support" on page 13.

3 Turn ON monitor and computer

Turn ON the monitor, then turn ON the computer. This sequence (monitor before computer) is very important.

NOTE: At this point Windows users may receive a message asking them to install the INF file.

4 Install Display Optimization files (INF and ICM files)

(1) Insert the ViewSonic Wizard CD-ROM into your computer's CD-ROM drive.

NOTE: If your computer does not have a CD-ROM drive, see "Cutomer Support" on page 13.

(Continued)

(2) Wait for the CD-ROM to auto-start.

NOTE: If the CD-ROM does not auto-start: double-click on the CD-ROM icon in Windows Explorer, then double-click on viewsonic.exe.

(3) Follow the on-screen instructions.

5 Windows users: Set the Timing

Mode (resolution and refresh rate) *Example*: 1024 X 768 @ 75 Hz.

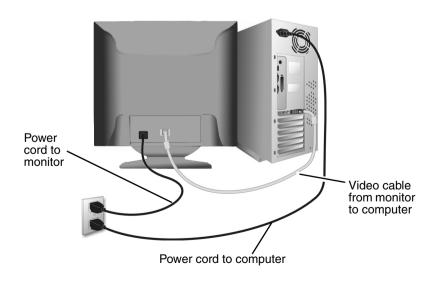
For instructions on changing the resolution and refresh rate, see the graphic card's user guide.

Installation is complete. Enjoy your new ViewSonic color monitor.

To be best prepared for any future customer service needs: print this user guide and write the serial number in "For Your Records" on page 2. (See back of monitor.) To register your product go online to

www.viewsonic.com.

The ViewSonic Wizard CD-ROM also provides an opportunity for you to print the registration form which you may mail or fax to ViewSonic.



Using the Monitor

Setting the Timing Mode

Setting the timing mode is important for maximizing the quality of the screen image and minimizing eve strain. The timing mode consists of the **resolution** (example 1024 x 768) and **refresh rate** (or vertical frequency; example 75 Hz). After setting the timing mode, use the OnView® controls to adjust the screen image.

For the best picture quality set your monitor timing mode to:

VESA 1280 x 1024 @ 75 Hz.

To set the Resolution:

- Right-click on the Windows desktop.
- **2** Click *Properties* on the drop-down menu.
- **3** Click the *Settings* tab.
- 4 Move the slider pointer which displays in the *Desktop area* or *Screen area* in the window.

NOTE: The refresh rate should already be set if you have done the CD installation (or refer to your graphics card documentation).

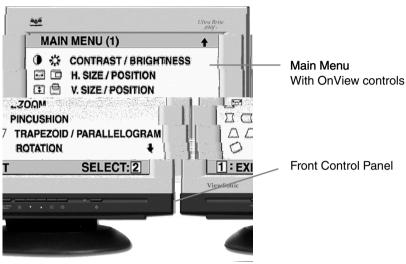
OSD Lock Settings

You have the option of using the OSD Lock feature to prevent current image adjustments from being changed.

- OSD Lock: Press and hold [1] and [▼] for 10 seconds. If any buttons are pressed the message OSD Locked will display for 5 seconds.
- OSD Unlock: Press and hold [1] and [▼] again for 10 seconds.

Adjusting the Screen Image

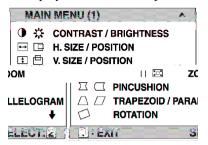
Use the buttons on the front control panel to display and adjust the OnView® controls which display on the screen. The OnView controls are explained at the top of the next page and are defined in "Main Menu Controls" on page 8.



Switches between Normal and UltraBrite modes. "NORMAL: TEXT/SPREADSHEET": When selected, this brightness level setting displays a standard CRT brightness of 120 Displays the highlighted nits for text and spreadsheet applications. option or toggles "ULTRABRITE: GRAPHICS/GAME/VIDEO": between options When selected, this UltraBrite™ setting displays up to 300 nits of brightness for One Touch Auto Adjust optimum display performance of grapics and Automatically adjusts horizontal and vertical size and position of the video applications and games. screen image. Power button 冝 2 • ሁ Power light: Displays the Main Scrolls through Menu or exits and options or adjusts areen = onsaves settings orange = power save

Do the following to adjust the screen image:

1 To display the Main Menu, press button [1].



2 To select a control you want to adjust, press the arrow buttons on the front control panel of your monitor and scroll through the choices. When the control you want is highlighted, press button [2].

NOTE: Some controls on the Main Menu are listed in pairs, such as Contrast/Brightness. Display control screen (sample shown in step 3 below). Press button [2] to toggle to the next control in the pair.

3 To adjust the selected control, such as **CONTRAST** in the sample below, press the arrow buttons.



4 To save the control setting and Exit the menu press button [1] *twice*.

h. left

V. Size (image.

V. Position (Veror down.

Zoom expands and con

Pincushion curves the vertical

Pin Balance curves the vertical edges to the left or right.

Control **Explanation**



Trapezoid adjusts the top and bottom of the screen image until they have equal width.



Parallelogram slants the vertical edges of the screen image until they are parallel.



Rotation rotates the entire screen image.



Degauss removes the build-up of magnetic fields that can cause irregular colors to appear around the edges of screen images. There are two ways to degauss the display: automatically by turning the monitor on, or manually by selecting the DEGAUSS control from the menu.

To degauss the monitor manually, select DEGAUSS from the menu and press button [2].

Important: Do not degauss repeatedly. Doing so can be harmful to the display. Wait at least 20 minutes before selecting this control again.



ViewMatch® Color provides several color options: three preset color temperatures and User Color. The factory setting for this product is 9300K (9300° Kelvin).

9300K — Adds blue to the screen image for cooler white (used in most office settings with fluorescent lighting).

6500K — Adds red to the screen image for warmer white and richer red.

5000K — Adds blue and green to the screen image for a darker color.

User Color — Individual adjustments for red and blue (green is fixed).





OSD Position (On Screen Display) allows you to move the menus and control screens.





Moire Reduction reduces interference patterns that appear as ripples, waves, or unwanted background color textures. Interference patterns of this type are most noticeable when viewing images having closely spaced lines or finely detailed patterns.



Language allows you to choose from among several languages for the menus and control screens: English, French, German, Italian, and Spanish.

Control **Explanation**



Memory Recall returns adjustments to the original factory settings if the display is operating in a factory preset timing mode listed in this user guide.

Exception: This control does not affect changes made with the **User Color** control.



ViewMeter® displays information regarding the current input signal coming from the graphics card of the computer.

Other Information

Specifications

=			
CRT	Туре	Full 19" (18.0" viewable diagonal area), 0.21 mm Horizontal, 0.14 mm Vertical, and 0.25 mm diagonal dot pitch, 90° deflection	
	Phosphor Glass surface	RGB P22 medium/short persistence TM = 52.6%, anti-static, anti-reflection	
Input Signal	Video Sync	RGB Analog (0.7Vp-p, 75 Ohms) f _H : 30-86 kHz, f _v : 50-150 Hz HV Separate (TTL), Composite Sync	
Compatibility	PC Macintosh ¹	VGA up to 1600 x 1200 Power Macintosh [®] G3, G4 (from 640 x 480 to 1024 x 768; may require Macintosh cable adapter)	
Resolution	Recommended and supported	1600 x 1200 @ 60 Hz (VESA) 1280 x 1024 @ 75 Hz (VESA) 1024 x 768 @ 60, 75, 85 Hz (VESA) 800 x 600 @ 75, 85 Hz (VGA) 640 x 480 @ 60 Hz (VGA) 640 x 400 @ 70 Hz (VGA) 640 x 480 @ 67 Hz (Mac) 832 x 624 @ 75 Hz (Mac) 1024 x 768 @ 74.9 Hz (Mac)	
Power	Voltage	AC 100-240 V 50/60 (+/- 3)Hz	
Display Area	Default Full scan	352 mm (H) x 264 mm (V) (typical) 360 mm (H) x 270 mm (V) (depends on signal timing)	
Operating Conditions	Temperature Humidity Altitude	+32° F to +104° F (+0° C to +40° C) 5% to 95% (no condensation) To 9,000 feet	
Storage Conditions	Temperature Humidity Altitude	-40° F to +140° F (-40° C to +60° C) 5% to 95% (no condensation) To 39,000 feet	
Dimensions	Physical (monitor)	463.5 mm (W) x 491.5 mm (H) x 470 mm (D) 18.2" (W) x 19.4" (H) x 18.6" (D)	
Weight	Net (monitor only)	22 kg (48.5 lb)	
Regulations		UL/cUL, FCC-B, DHHS, ICES-003, EPA-Energy Star, CB, MPR-II	
Power Saving Modes	On Off	< 110 W maximum (Green LED) < 3 W (Orange LED)	

¹Macintosh models prior to G3 require a Macintosh adapter. To order a ViewSonic Macintosh adapter, contact Customer Support. You will need to provide the product serial number.

NOTE: This product was designed for operation in the magnetic fields of the hemisphere where it was purchased.

Troubleshooting

No power

- Make sure power button (or switch) is ON.
- Make sure A/C power cord is securely connected to the back of the monitor and to a power outlet.
- Plug another electrical device (like a radio) into the power outlet to verify that the outlet is supplying proper voltage.

Power is ON but no screen image

- Make sure the video cable supplied with the monitor is tightly secured to the
 video output port on the back of the computer. If the other end of the video cable
 is not attached permanently to the monitor, tightly secure it to the monitor.
- Adjust brightness and contrast.
- Verify whether an adapter is required for proper signal continuity between graphics card and monitor.

Flickering

- Not enough power supplied. Connect the monitor to a different outlet. If using a surge protector, reduce the number of devices plugged in.
- Check the ViewMeter® from the main menu to verify the refresh rate (vertical frequency) is 75 Hz or higher. See "Specifications" on page 11.
- Remove any devices from the area around the monitor that emit magnetic fields such as radios, surge protectors, unshielded speakers, fluorescent lights, AC power converters, desk fans, etc.
- Make sure the graphics card in your computer can use non-interlaced mode at the desired frequencies. To enable your graphics card to support higher refresh rates, try selecting fewer colors or running lower resolutions.

Wrong or abnormal colors

- If any colors (red, green, or blue) are missing, check the video cable to make sure it is securely connected. Loose or broken pins in the cable connector could cause an improper connection.
- Connect the monitor to another computer.
- Select Degauss from the Main Menu. Do this only once.
- If you have an older graphics card, contact ViewSonic® Customer Support.

Entire screen image rolls vertically

- Make sure video input signals are within the monitor's specified frequency range.
- Try the monitor with another power source, graphics card, or computer system.
- Connect the video cable securely.

Control buttons do not work

• Press only one button at a time.

Customer Support

For technical support or product service, see the table below or contact your reseller.

NOTE: You will need the product serial number.

Country/ Region	Web site	T = Telephone F = FAX	Email
United States	viewsonic.com/ support	T : (800) 688-6688 F : (909) 468-1202	service.us@ viewsonic.com
Canada	viewsonic.com/ support	T: (800) 688-6688 F: (909) 468-1202	service.ca@ viewsonic.com
United Kingdom	viewsoniceurope.com	T : 0800 833 648 F : (01293) 643910	service.eu@ viewsoniceurope.com
Europe, Middle East, Baltic countries, and North Africa	viewsoniceurope.com	Contact your reseller	service.eu@ viewsoniceurope.com
Australia and New Zealand	viewsonic.com.au	T: +61 2 9929 3955 F: +61 2 9929 8393	service.au@ viewsonic.com
Singapore/India and Southeast Asia	viewsonic.com.sg	T : 65 273 4018 F : 65 273 1566	service.sg@ viewsonic.com
Other Asia/Pacific countries	viewsonic.com.tw	T: 886 2 2246 3456 F: 886 2 8242 3668	service.ap@ viewsonic.com
South Africa	viewsonic.com/asia	T: 886 2 2246 3456 F: 886 2 8242 3668	service.ap@ viewsonic.com

Cleaning the Monitor

- MAKE SURE THE MONITOR IS TURNED OFF.
- NEVER SPRAY OR POUR ANY LIQUID DIRECTLY ONTO THE SCREEN OR CASE.

To clean the screen:

- 1 Wipe the screen with a clean, soft, lint-free cloth. This removes dust and other particles.
- 2 If still not clean, apply a small amount of <u>non-ammonia</u>, <u>non-alcohol</u> based glass cleaner onto a clean, soft, lint-free cloth, and wipe the screen.

To clean the case:

- 1 Use a soft, dry cloth.
- 2 If still not clean, apply a small amount of a non-ammonia, non-alcohol based, mild non-abrasive detergent onto a clean, soft, lint-free cloth, then wipe the surface.

DISCLAIMER

ViewSonic® does not recommend the use of any ammonia or alcohol-based cleaners on the monitor screen or case. Some chemical cleaners have been reported to damage the screen and/or case of the monitor. ViewSonic will not be liable for damage resulting from use of any ammonia or alcohol-based cleaners.

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Limited Warranty VIEWSONIC CRT MONITORS

What the warranty covers:

ViewSonic warrants its products to be free from defects in material and workmanship during the warranty period. If a product proves to be defective in material or workmanship during the warranty period, **ViewSonic** will, at its sole option, repair or replace the product with a like product. Replacement product or parts may include remanufactured or refurbished parts or components.

How long the warranty is effective:

ViewSonic® color CRT monitors, including the display tubes, are warranted for three (3) years for all parts and three (3) years for all labor from the date of the first consumer purchase.

Who the warranty protects:

This warranty is valid only for the first consumer purchaser.

What the warranty does not cover:

- 1. Any product on which the serial number has been defaced, modified or removed.
- 2. Damage, deterioration or malfunction resulting from:
 - a. Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
 - b. Repair or attempted repair by anyone not authorized by ViewSonic.
 - c. Any damage of the product due to shipment.
 - d. Removal or installation of the product.
 - e. Causes external to the product, such as electrical power fluctuations or failure.
 - f. Use of supplies or parts not meeting ViewSonic's specifications.
 - g. Normal wear and tear.
 - h. Any other cause which does not relate to a product defect.
- 3. Removal, installation, and set-up service charges.

How to get service:

- For information about receiving service under warranty, contact ViewSonic Customer Support. You will need to provide your product's serial number.
- To obtain service under warranty, you will be required to provide (a) the original dated sales slip, (b) your name, (c) your address, (d) a description of the problem, and (e) the serial number of the product.
- Take or ship the product freight prepaid in the original container to an authorized ViewSonic service center or ViewSonic.
- For additional information or the name of the nearest ViewSonic service center, contact ViewSonic.

Limitation of implied warranties:

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION CONTAINED HEREIN INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Exclusion of damages:

VIEWSONIC'S LIABILITY IS LIMITED TO THE COST OF REPAIR OR REPLACEMENT OF THE PRODUCT. VIEWSONIC SHALL NOT BE LIABLE FOR:

- DAMAGE TO OTHER PROPERTY CAUSED BY ANY DEFECTS IN THE PRODUCT, DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME, LOSS OF PROFITS, LOSS OF BUSINESS OPPORTUNITY, LOSS OF GOODWILL, INTERFERENCE WITH BUSINESS RELATIONSHIPS, OR OTHER COMMERCIAL LOSS, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
- 2. ANY OTHER DAMAGES, WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE.
- 3. ANY CLAIM AGAINST THE CUSTOMER BY ANY OTHER PARTY.

Effect of state law:

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on implied warranties and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

Sales outside the U.S.A. and Canada:

For warranty information and service on **ViewSonic** products sold outside of the U.S.A. and Canada, contact **ViewSonic** or your local **ViewSonic** dealer.

ViewSonic CRT Monitor Warranty (V3.0) Release Date: 03-26-2002

Appendix Safety Guidelines

CAUTION: The socket-outlet should be installed near the equipment and be easily accessible.

CAUTION: Use a power cable that is properly grounded. Always use the appropriate AC cord that is certified for the individual country. Some examples are listed below:

> USA...... UL. Switzerland SEV Canada.....CSA Britain BASE/BS

Japan Electric Appliance Control Act Germany...... VDE

IMPORTANT NOTICE CONCERNING POWER CORD SELECTION

The power cord set for this unit has been enclosed and has been selected according to the country of destination and must be used to prevent electric shock. Use the following guidelines if it is necessary to replace the original cord set, or if the cord set is not enclosed.

The female receptacle of the cord set must meet IEC-60320 requirements and may look like (Figure A1 below):

Figure A1 Figure A2

For the United States and Canada

In the United States and Canada the male plug is a NEMA5-15 style (Figure A2), UL Listed, and CSA Labeled. For units which are mounted on a desk or table, type SVT or SJT cord sets may be used. For units which sit on the floor, only SJT type cord sets may be used. The cord set must be selected according to the current rating for your unit. Please consult the table below for the selection criteria for power cords used in the United States and Canada.

Cord Type	Size of Conductors in Cord	Maximum Current Rating of Unit
SJT	18 AWG 16 AWG 14 AWG	10 Amps 12 Amps 12 Amps
SVT	18 AWG 17 AWG	10 Amps 12 Amps

For European Countries

In Europe you must use a cord set which is appropriate for the receptacles in your country. The cord set is HAR-Certified, and a special mark that will appear on the outer sheath, or on the insulation of one of the inner conductors.

AC PLUG CORD PRECAUTIONS FOR THE UNITED KINGDOM

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET THEN THE PLUG SHOULD BE CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO AN APPROPRIATE SOCKET

If a new plug is to be fitted, please observe the wiring code as shown below.

If in any doubt, please consult a qualified electrician.

WARNING: THIS APPLIANCE MUST BE EARTHED.

IMPORTANT: The wires in this mains lead are coloured in accordance with the following code:

Green-and-Yellow: Earth

Blue: Neutral Brown: Live

If the coloured wires of the mains lead of this appliance do not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the Earth symbol or coloured GREEN or GREEN-AND-YELLOW.

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

If you have any questions concerning which proper power cord to use, please consult with the dealer from whom you have purchased the product.

Compliance Information for U.S.A.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- · Reorient or relocate the receiving antenna.
- · Increase the separation between the equipment and receiver.
- · Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Warning

To assure continued FCC compliance, the user must use grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. If a BNC cable is going to be used, use only a shielded BNC(5) cable. Also, any unauthorized changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

Notice for Japan

This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

CE Conformity for Europe



The device complies with the requirements of the EEC directive 89/336/EEC as amended by 92/31/EEC and 93/68/EEC Art.5 with regard to "Electromagnetic compatibility", and 73/23/EEC as amended by 93/68/EEC Art.13 with regard to "Safety."

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